

Application No. 09/636,286

RD-27791

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (currently amended) A method for forming an elongated fused quartz article comprising:

feeding a generally SiO_2 material into a ~~furnace~~ melting zone of a furnace,
the melting zone comprising a refractory material wall with a protective lining, which
comprises a member selected from the group consisting of rhenium, osmium, iridium and
mixtures thereof;

fusing said SiO_2 material in a gas atmosphere of the melting zone of said
furnace, said gas atmosphere comprising (1) at least one carrier gas comprising a member
selected from the group consisting of a hydrogen carrier gas and a noble carrier gas and
(2) an oxidizing gas; and

drawing the fused SiO_2 material from the furnace to form said article.

2. (canceled)

3. (canceled)

4. (original) The method of claim 1 wherein said oxidizing gas is water
vapor.

5. (original) The method of claim 1 being a continuous process.

6. (canceled)

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7. (canceled)

8. (currently amended) The method of claim 1, wherein said refractory material wall is comprised of tungsten, molybdenum or mixtures thereof.

9. (previously presented) The method of claim 1, wherein said protective lining material comprises rhenium.

10. (canceled)

11. (canceled)

12. (canceled)

13. (canceled)

14. (canceled)

15. (canceled)

16. (canceled)

17. (canceled)

18. (canceled)

19. (canceled)

20. (currently amended) A method for forming an elongated fused quartz article comprising:

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feeding a SiO_2 material into a furnace melting zone comprising a refractory material wall with a protective lining selected from the group consisting of rhenium, osmium, iridium and mixtures thereof;

feeding a gas mixture comprising at least (1) one inert carrier gas comprising a member selected from the group consisting of a hydrogen carrier gas and a noble carrier gas and (2) an oxidizing gas into the protectively lined furnace ~~meting~~ melting zone;

fusing the SiO_2 material in the protectively lined melting zone of the furnace in the presence of the gas mixture; and

drawing the fused SiO_2 material from the furnace to form the fused quartz article.

21. (canceled)

22. (previously presented) The method of claim 20, wherein the oxidizing gas is water vapor or air.

23. (previously presented) The method of claim 20, wherein the oxidizing gas is water vapor.

24. (previously presented) The method of claim 20, wherein the oxidizing gas is air

25. (previously presented) The method of claim 20, wherein the gas mixture comprises hydrogen with a dew point of greater than 30°C .

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26. (previously presented) The method of claim 20, wherein the gas mixture comprises hydrogen with a dew point of greater than 50°C.

27. (currently amended) The method of claim 20, wherein said protective lining ~~material~~ comprises rhenium.

28. (currently amended) The method of claim 20, wherein said refractory material wall comprises tungsten, molybdenum or mixtures thereof.

29. (previously presented) The method of claim 20, comprising drawing a fused SiO₂ material having less than 10 ppb dissolved refractory metal content from the furnace.

30. (previously presented) The method of claim 20, comprising drawing a fused SiO₂ material having less than 1 ppb dissolved refractory metal content from the furnace.

31. (currently amended) The method of claim 20, comprising fusing the silica SiO₂ material at a temperature in excess of 2050 °C.